

111-117 Bellevue Road, Edinburgh

Structural Report:

**111-117 Bellevue Road
Edinburgh
EH7 4DG**



January 2014

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SUMMARY

The property at 111-117 Bellevue Road, Edinburgh is a residential block of flats comprising two, three and four-storey buildings, all dating from the early 1900's. To the east of the property is a gap site which is currently under development.

In November/December 2013 minor cracks began to appear in some of the flats and in the render finishes of the external elevation. The cracks appeared around the same time as piling operations were being carried out on the adjacent site to construct foundations for a new housing development.

This inspection revealed evidence of very recent, minor damage to the property. This damage appears to be due to the recent piling operations on the adjacent site. The damage is mainly confined to internal decorative finishes and external render. The structure of the building does not appear to have been substantially affected.

It is recommended that the property be monitored for a period of at least six months to allow the recent movement to stabilise. At the end of the monitoring period, provided all movement has ceased, repairs and redecoration should be carried out.

1.0 Introduction

In accordance with instructions received from the owners, a Chartered Structural Engineer from this office has carried out a visual inspection of the property at 111-117 Bellevue Road, Edinburgh. This report is based on a walkover survey carried out on 16 January 2014. No finishes were removed or floorboards lifted. No investigations were carried out as to the strength of individual structural members nor was any site investigation work or inspection undertaken to determine the nature or bearing capacity of the foundations. No specific detailed investigation was made to determine the presence or otherwise of timber rot, decay or of rising damp. The external elevations were inspected from ground level. No access was available to the roof.

Internally, Flats ■, ■ & ■ were inspected as were the common areas including the stair and corridors.

For the purposes of this report the front elevation of the property on Bellevue Road will be considered south facing.

2.0 The Property

The property is a residential block of flats on the north side of the street. The development comprises a mixture of two, three and four storey blocks. The oldest building is likely to be the flat-roofed, four-storey block on the east side of the development. This building, which dates from around the beginning of the twentieth century, is of steel frame construction and has timber floors and solid brick external walls. The three-storey structures to the north and west of the original building appear to have been added at a slightly later date when the building was converted from commercial to residential use. The two-storey block to the north is likely to have been added slightly later.

3.0 Internal Observations

3.1 Flat ■ (1st Floor)

This flat is at the south end of the building.

Living Room

- Hairline plaster crack around the door at the junction of the brickwork and the timber door surround (Fig.1).
- Vertical hairline crack in the lath and plaster lining above the fireplace (Fig.2).

Hall

The hall is understood to have been decorated in 2013.

- Vertical hairline crack above the door to the kitchen (Fig.3). This wall is of timber stud construction. The mitred joint to the door surround has opened up slightly in the same location.
- Horizontal crack in plaster above the door to the living room (Fig.4).

Kitchen

- Vertical hairline crack in plaster above the door (Fig.5), reflecting similar crack on the other side of this wall, within the hall.

3.2 First Floor Store Room

- Horizontal crack in plaster at wall/ceiling junction on south and east walls (Fig.6). This crack does not appear to be particularly recent but may have worsened in recent months, attracting the notice of the residents.

3.3 Flat ■ (2nd Floor)

This flat is at the south end of the building, above Flat ■. The property was substantially redecorated in August 2012 when the current owner took possession.

Living Room

- Vertical hairline plaster crack on north wall (Fig.7).
- Vertical crack in plaster above door (Fig.8). This crack has been repaired in the past but appears to have reopened.

Bedroom

- Hairline crack in plaster at junction of south wall and sloped ceiling (Fig.9).
- Hairline crack in plaster at junction of north wall and sloped ceiling (Fig.10).

3.4 Flat ■ (2nd Floor)

Hall

- Vertical hairline crack to east of main entrance door (Fig.11).
- Crack across ceiling in north/south direction at junction of plasterboard (Fig.12).

Bathroom

- Square shaped hairline crack in ceiling plaster in north west corner (Fig.13).

Kitchen

- Crack across ceiling in east/west direction at junction of plasterboard (Fig.14).

Guest Bedroom

- The door to this room rubs against the doorframe. This appears to be a recent development.

3.5 Second Floor Store Room

- Hairline plaster crack on south wall at ceiling level, in south west corner of store (Fig.15). This crack continues along the wall/ceiling junction of the south wall.

3.6 Common Stair and Passage

The stair and corridor walls are plastered and painted. The stair is of in-situ concrete construction. There is damage to the plaster finishes of the west wall outside Flat 11 but this damage appears to be due to recent water ingress through the roof. There are minor defects elsewhere to the decorative finishes but these all appeared to be relatively long-standing. However, there is a horizontal crack on the west stair wall, to the south the door to the second floor corridor (Fig.16) which is relatively fresh in appearance.

4.0 External Observations

The external elevations are all finished with a roughcast render and painted. The render and paint finishes all appear to be of a reasonable age.

4.1 South Elevation

- Slight crack to the smooth render finish to the first floor and ground floor windows at the west end of this elevation. However, these defects do not appear to be recent.
- Mechanical damage to the render finishes to the east of the door to Flat 111 but again this does not appear to be a recent defect.

4.2 East Elevation – Main Block

- Two vertical hairline cracks in the render between the ground and first floor windows to the south of the main door (Fig's 17 & 18). There is a further vertical crack above the first floor window in the same location (Fig.19). These cracks were all relatively fresh in appearance.
- Vertical hairline crack in render to north of main door (Fig.20).

4.3 East Elevation – North Block

- Vertical crack in render in corner at junction of four-storey main block and three-storey north block. This crack continues diagonally along the east elevation to the sill of the second floor window (Fig. 21) and continues from the top of the window to the roof. The crack indicates past downward movement of the north block relative to the main block. However, at least some of this movement may be more recent.

4.4 North Elevation – Two Storey Block

- Vertical crack in render between ground and first floor windows to Flat 117 (Fig. 22). This crack has been repaired in the past but has reopened slightly.

4.5 West Elevation

- Vertical crack in render at return in wall. This crack continues diagonally up the wall towards the roof (Fig. 25). This crack does not appear to be particularly recent and indicates past downward movement of the north section of the elevation relative to the south.

5.0 Discussion

This inspection revealed evidence of minor recent cosmetic and structural damage to the property. Internally there is evidence of recent minor damage to the plaster finishes of masonry walls and stud partitions in the three flats inspected. Externally, there are hairline cracks to the render finishes on the east elevation which are relatively fresh in appearance. There is also some evidence of slight widening of older cracks in the render finishes externally.

The majority of the cracks described in this report are relatively fresh in appearance. The residents have reported that the cracks began to appear around November/December 2013 at the time when piling operations were being carried out on the adjacent building site to the east of the property. The owners of the three flats inspected all experienced considerable vibrations through the property during the course of the piling operations. It seems clear that the damage to the property is a result of these recent piling operations.

The movement is likely to continue for a period of weeks and months although it is unlikely to result in any further significant damage. The movement does not appear to have compromised the structural integrity of the building.

6.0 Recommendations

As structural movement is likely to continue for a few more months it would not be advisable to carry out repairs immediately. The property should be monitored for at least six months following the initial movement. Monitoring can be carried out using proprietary tell-tales. These are graduated, overlapping Perspex slides (produced by Avongard, amongst others) which are fixed to the wall either side of the cracks. This type of monitoring device is not particularly effective on external walls, particularly on rough render finishes. Accordingly, I would recommend that the external cracks be monitored informally by taking a photographic record of the cracks as they appear at present and comparing this record with their appearance in six months time.

Once all movement has ceased, work can be carried out to repair the various cracks. The internal cracks are generally cosmetic and only require repair to the decorative finishes. The hinges of internal doors may require adjustment where the operation of the door has been affected by movement. Externally, the render finishes should be removed locally. Where the crack extends through to the brickwork, the crack should be stitched prior to being infilled. Stitching involves installing stainless steel plates (or Helibars) in alternate mortar bedjoints across the crack and pointing these in before infilling the crack with cement mortar. A proprietary stainless steel render lath should then be fixed to the wall over the crack prior to the render finishes being applied. The elevation should then be painted as necessary to match the rest of the building.

Signed:

date: 17 January 2014


For David Narro Associates

APPENDIX 1: Photographs

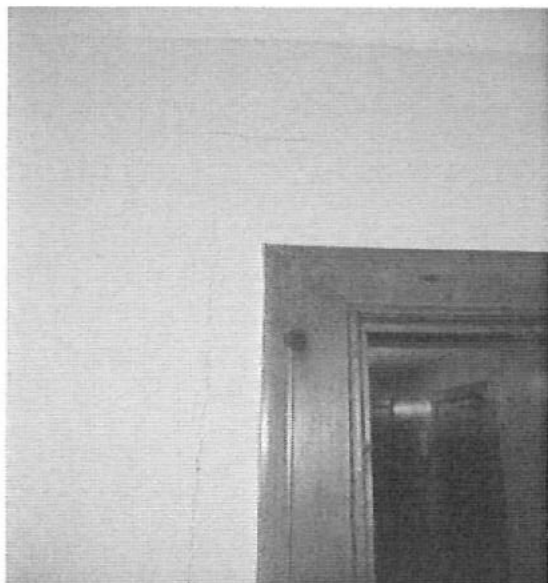


Fig.1

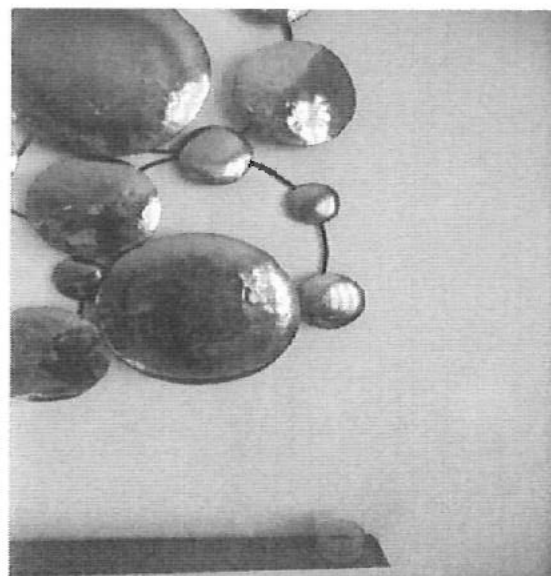


Fig.2



Fig.3

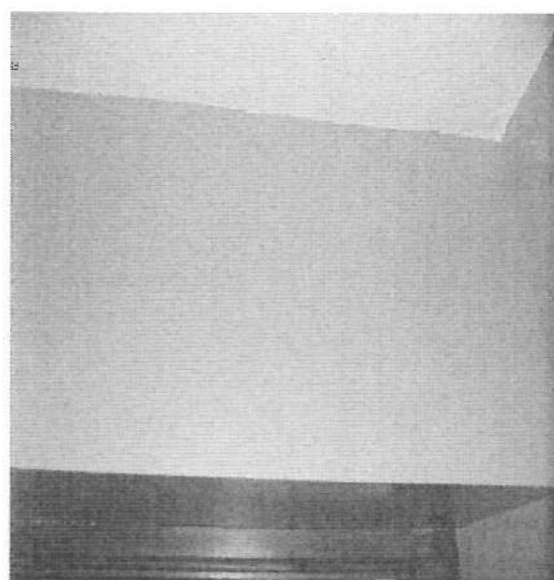


Fig.4

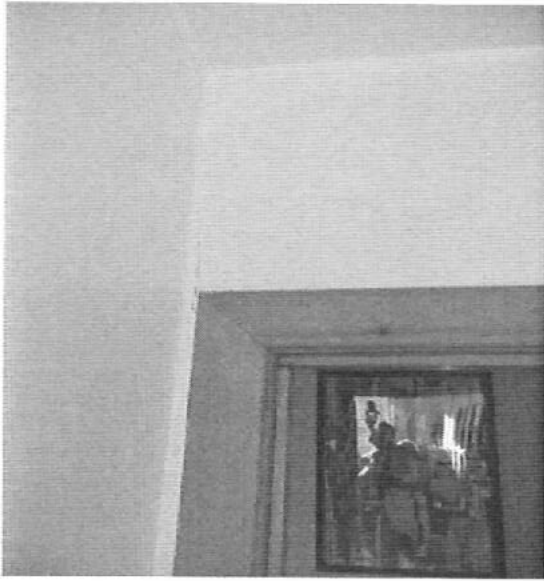


Fig.5

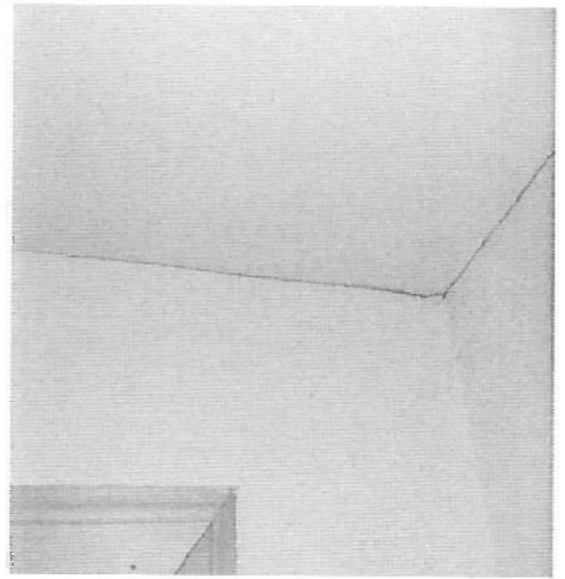


Fig.6

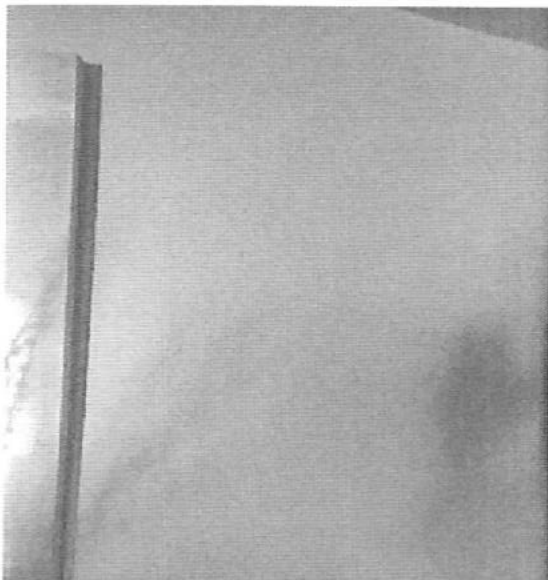


Fig.7

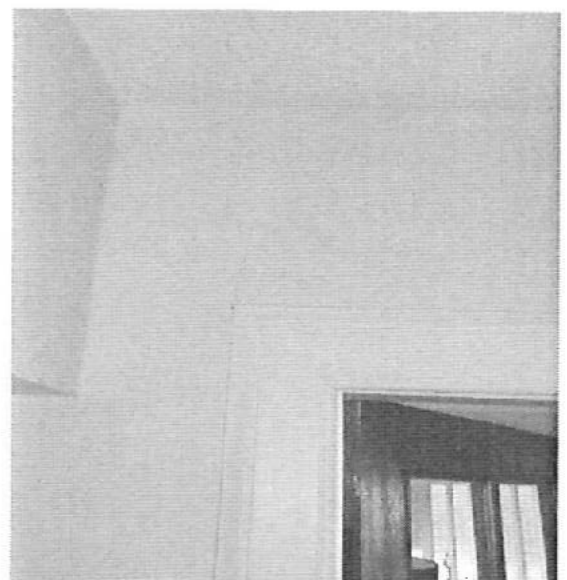


Fig.8

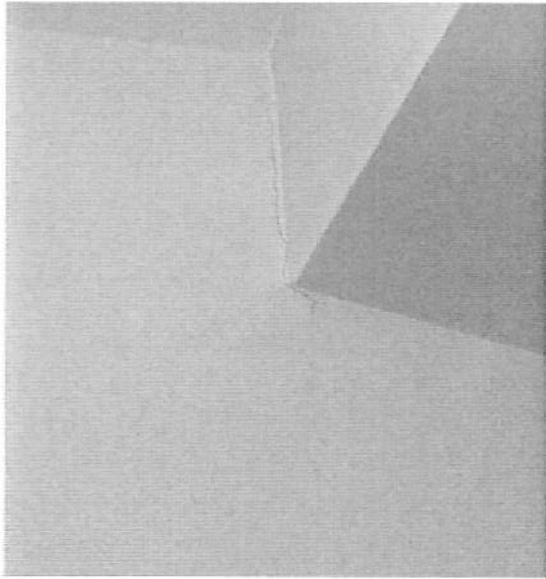


Fig.9

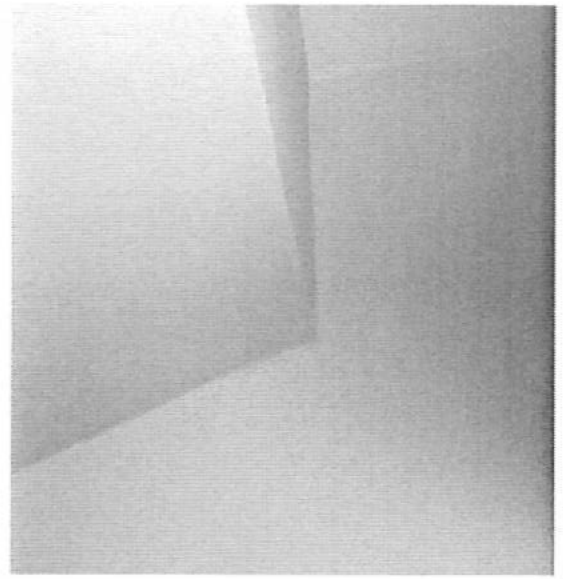


Fig.10

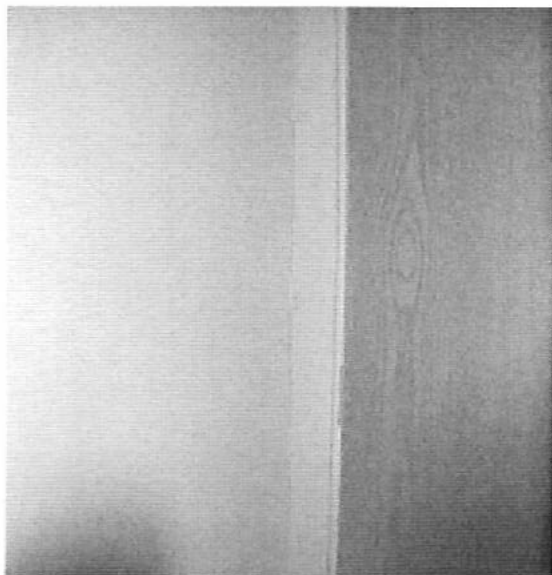


Fig.11

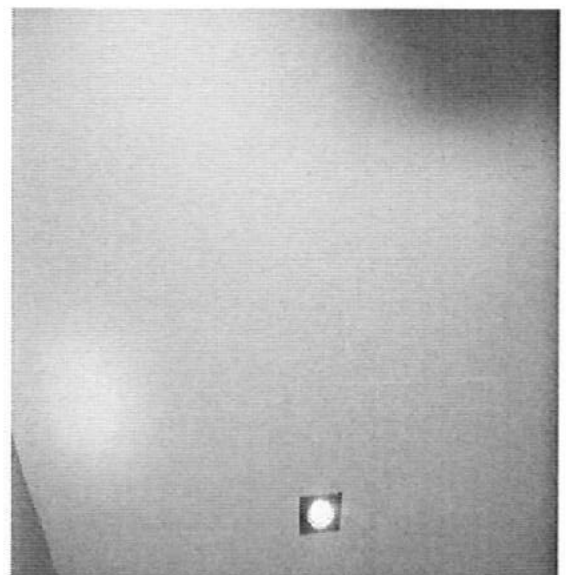


Fig.12